DETAILED ACTION

1. In the amendment filed February 26, 2010, the examiner acknowledges the following:

a. Claims 1, 7, 11, 14 and 23 were amended.

b. Claim 6 was cancelled.

c. Claims 31 - 33 was added.

d. Currently, claims 1, 7, 11, 14, 23 and 31 - 33 are pending and are being examined.

Claim Objections

2.a. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 31 and 32 should be renumbered as claims 31 and 32.

2.b. Claim 1, line 2 has a typo. Claim 1 discloses "...**images of an object <u>at</u> at least two planes**..". It should read "...**images of an object *<u>in</u>* at least two planes**...". Claim 11 has the same problem.

Claim 23, line 2 also has a typo. Claim 23 discloses "...**with respect to one another and <u>at</u> at least two planes**...". It should read "... **with respect to one another and <u>*in*</u> at least two planes**...". Claim 33 presents the same problem.

Appropriate correction is required

Response to Arguments

3. Applicant's arguments filed on February 26, 2010, with respect to claims 1, 11and 23 have been considered but are moot in view of the new ground(s) of rejection.

As for claims 1, 7and 11, the arguments filed by applicant have been fully considered but they are not persuasive. Applicant argues that Doi reference, US 4,164,752 A does not teach claim 1, which discloses "A system adapted to produce images of an object in at least two planes and defocused with respect to one another, the system comprising ...". The claim language is too broad and the expression "adapted to" corresponds to functional language or intended use and it does not add any weight to the claim disclosure. In Figs 2 and 3, Doi illustrates a system comprising a beam splitter 22 that divides the light reflected by an object into three beams which pass through optical elements (23a/23b or 24a/24b used for the green and blue sensors) and are directed to three image sensors and the system is adapted to that produce images in at least two planes that are defocused in relation to one another. For example, the image obtained for each plane is defocused in relation to the image in the other two planes.

Applicant further argues that Doi does not teach for claim 1: (i) "a beam splitter for splitting a beam radiation from the object into at least two resultant beams". Doi clearly illustrates the beam coming out the taking lens 21 being directed to beam splitter 22 and being divided into three beams and one going towards the red sensor 24 R and another to green sensor 24G and the third one going towards the blue sensor 24B; (ii) at least two sensors separated from one another". As indicated in figs 2 and 3, sensors 24R, 34G and 24B are clearly separated from one another: (iii) "each for receiving one of the resultant beams". Again, in Doi, Figs 2 and 3 it is clearly illustrated one resultant beam going to just one sensor; therefore, each sensor is there to receive one of the resultant beams as to be able to produce an image of the object being photographed. Therefore, although the claim language was changed, Doi reference still reads on the amended claims. See claim rejections below.

As for claim 23, another reference (Sato, US 6,710,806 B1) teaches the new limitations. See rejections below.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 11, 14, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by "Y. Doi et al., US 4,164,752 A".

Regarding Claim 1: As per Doi reference,

A system adapted to produce images of an object at at least two planes and defocused with respect to one another (Doi, Figs 2 and 3 show a system that produces images in at least two planes that are defocused in relation to one another)**, the system comprising: a beam splitter for splitting a beam of radiation from the object into at least two resultant beams** (Figs 2 and 3, 22 is a beam splitter that separates the incoming light beam into 3 different beams)**; at least two sensors separated from one another, each for receiving one of the resultant beams** (In Figs 2 and 3, 24R, 24G and 24B are sensors separated from one another)**; optical elements located between the beam splitter and the sensors, for creating different path lengths for the resultant beams from the beam splitter to the respective sensor** (Fig 2 shows plane parallel plates 23a and 23b (or optical elements) place between the beam splitter 22 and sensors 24B and 24G for creating a different optical path length for the resultant beam for each of the image sensors. Fig 3 shows other kind of optical elements, two pairs of wedges 25a and 25b, located between the beam splitter 22 and the image sensors 24G and 24B)**; and a path length adjuster for adjusting the optical elements to enable the path lengths of the**

two resultant beams to be increased or decreased (Doi, Fig 3 shows moving optical elements 25a and 25b that implies in some mechanism to move the optical elements, or path length adjusters, which moves/adjusts the position of the optical elements as to increase or decrease the path length of the two light beams coming into green sensor 24G and blue sensor 24B).

(Doi discloses an optical system for a TV camera that includes an interchangeable taking lens; a color separation prism block or beam splitter as claimed and 3 image sensors, one for each color. In Figs 2 and 3, Doi illustrates a system comprising a beam splitter 22 that divides the light reflected by an object into three beams which pass through optical elements (23a/23b or 24a/24b used for the green and blue sensors) and are directed to three image sensors and the system is adapted to that produce images in at least two planes that are defocused in relation to one another. For example, the image obtained for each plane is defocused in relation to the image in the other two planes (See Abstract; col. 2, lines 22 – 68 and Figs 2 and 3). Furthermore, in Fig 1, Doi teaches that a focal point P can be displaced/changed to another position P' by introducing an optical element in the beam path and between the beam splitter 22 and the image sensor, which allows for various degrees of displacement of the focal points (See col. 2, lines 4 – 21 and Fig 1). The claim language as disclosed is too broad, uses functional language and discloses an apparatus <u>adapted for/intended for</u> and does not add any weight to the claim limitations. For example, in Doi Fig 1, any focal point between points P and P', and before point P and after point P' are considered as de-focusing points and any image

captured in those positions are blurred or defocused images and therefore, Doi's device is adapted to produce focused and de-focused images as well, thus meeting this limitation. Doi also teaches a beam splitter for splitting a beam radiation from the object into at least two resultant beams. Indeed, in Figs 2 and 3, Doi clearly illustrates the beam coming out the taking lens 21 being directed to beam splitter 22 and being divided into three beams and one going towards the red sensor 24 R and another to green sensor 24G and the third one going towards the blue sensor 24B. Also as it is illustrated in the aforementioned figures, the three sensors 24R, 34G and 24B are clearly separated from one another. As for "each for receiving one of the resultant beams", in Doi, Figs 2 and 3 it is clearly illustrated one resultant beam going to just one sensor; therefore, each sensor is there to receive one of the resultant beams as to be able to produce an image of the object being photographed. Furthermore, Doi discloses that an optical element placed between the image sensors and the beam splitter is capable of varying the optical path length of the light beam incident over the sensors and also that the optical path length varying element may be a plane parallel plate or a combination of two optical wedges having parallel opposite end faces (See Figs 2 and 3 and col. 2, lines 22 - 68). The plane parallel changes the optical path length by its thickness. Additionally, in case of using the combination of the two wedges, the optical path length is changed by sliding the wedges with respect to each other as the distance between the opposite end-faces is varied. In Doi, changes are made to the optical path length of at least two of the image sensors, green and blue. Doi, Fig

3 shows moving optical elements 25a and 25b which implies in some sort of mechanism for the movement to take place, such mechanism(s) are the path length adjusters, which moves/adjusts the position of the optical elements as to increase or decrease the path length of the two light beams coming into green sensor 24G and blue sensor 24B.)

Regarding Claim 7:

The system of claim 1 wherein the o optical elements comprise respective pairs of transparent wedge-shaped members (See Doi claim 9 for transparent wedge shaped members) **and the path length adjuster comprises a moving mechanism for moving the wedge-shaped members in each pair relative to one another** (Fig 3 illustrates a pair of wedges 25a, which are moving in relation to one another, which implies in a moving mechanism for such movement to take place. The same is illustrated for the wedge pair 25b placed in front of the blue sensor) **so as to alter the amount of wedge through which the resultant beam passes to thereby change the path length of the resultant beam to increase or decrease the different path lengths** (Col. 2, lines 51 – 61 teach the thickness of the wedge combination being varied/altered as they move in relation to one another and the thickness is continuously controlled, then producing increasing or decreasing path lengths).

(The rejection of claim 1 is incorporated herein. In claim 9, Doi discloses that the wedge-shaped optical elements are transparent wedge shaped members. Fig 3 illustrates the optical element placed between the beam splitter

and the image sensors 24G and 24B and it is composed by a pair of wedges 25a (24b), which are moving in relation to one another, which implies in a moving mechanism for such movement to take place. Doi also teaches the thickness of the wedge combination being varied/altered as they move in relation to one another and the thickness is continuously controlled, then producing increasing or decreasing path lengths (See Col. 2, lines 51 – 61).)

Regarding Claim 11: As per Doi reference,

A system adapted to produce images of an object at at least two planes and defocused with respect to one another (Doi, Figs 2 and 3 show a system that produces images in at least two planes that are defocused in relation to one another)**, the system comprising: a beam splitter for splitting a beam of radiation from the object into at least two resultant beams** (Figs 2 and 3, 22 is a beam splitter that separates the incoming light beam into 3 different beams)**; at least two sensors separated from one another, each for receiving one of the resultant beams** (In Figs 2 and 3, 24R, 24G and 24B are sensors separated from one another)**; an optical element located between at least one of the sensors and the beam splitter in the path of the corresponding resultant beam for changing the path length of the beam from the beam splitter to the sensor to thereby produce resultant beams having two different path lengths which are detected by the respective sensors** (Fig 2 shows plane parallel plates 23a and 23b (or at least an optical element) placed between the beam splitter 22 and at least one of the sensors,

sensor 24B has one and sensor 24G has another one, for changing the optical path length of the beam from the beam splitter to the sensor 24G (24B) that produces resultant beams with two different path lengths that are detected by each of the image sensors. Fig 3 shows other kind of optical elements, two pairs of wedges 25a and 25b, located between the beam splitter 22 and the image sensors 24G and 24B); **and a path length adjuster for adjusting the optical element to enable the path length of at least one of the resultant beams to be increased or decreased** (Doi, Fig 3 shows moving the optical element 25a (or 25b) that implies in some mechanism to move the optical element, or path length adjuster, which moves/adjusts the position of the optical element as to increase or decrease the path length of the resultant light beams coming into green sensor 24G and blue sensor 24B).

(The rejection of claim 1 is incorporated herein. As discussed for claim 1, in Figs 2 and 3, Doi illustrates a system that produces images in at least two planes that are defocused in relation to one another. In Doi Figs 2 and 3, 22 is a beam splitter that separates the incoming light beam into 3 different beams. Also, in Figs 2 and 3, 24R, 24G and 24B are sensors separated from one another. Fig 2 illustrates plane parallel plates 23a and 23b (or at least an optical element) placed between the beam splitter 22 and at least one of the sensors, sensor 24B has one and sensor 24G has another one, for changing the optical path length of the beam from the beam splitter to the sensor 24G (24B) that produces resultant beams with two different path lengths that are detected by each of the image sensors. Fig 3 shows other kind of optical elements, two pairs of wedges 25a and

25b, located between the beam splitter 22 and the image sensors 24G and 24B). Additionally, in Fig 3, Doi illustrates moving optical element 25a (or 25b) that implies in some mechanism to move the optical element, or path length adjuster, which moves/adjusts the position of the optical element as to increase or decrease the path length of the resultant light beams coming into green sensor 24G and blue sensor 24B. Therefore, claim 11 is rejected for the same reasons as claim 1.)

Regarding Claim 14:

The system of claim 11 wherein the optical element comprises a pair of transparent wedge-shaped members (See Doi claim 9 for transparent wedge shaped members) **and the path length adjuster comprises a moving mechanism for moving the wedge-shaped members in each pair relative to one another** (Fig 3 illustrates a pair of wedges 25a, which are moving in relation to one another, which implies in a moving mechanism for such movement to take place. The same is illustrated for the wedge pair 25b placed in front of the blue sensor) **so as to alter the amount of the wedge through which the resultant beam passes to thereby change the path length of the resultant beam to increase or decrease path length** (Col. 2, lines 51 – 61 teach the thickness of the wedge combination being varied/altered as they move in relation to one another and the thickness is continuously controlled, then producing increasing or decreasing path lengths).

(The rejection of claims 1, 7 and 11 is incorporated herein. Claim 14 has a similar disclosure as claim 7 but as applied to claim 11 and it is rejected for the same reasons.)

Regarding Claim 31:

A camera for producing a phase image of an object, comprising a system as claimed in claim 1.

(The rejection of claim 1 is incorporated herein. As discussed for claim 1, Doi discloses an optical system as disclosed in claim 1 for a TV camera for producing an image of an object, the camera that including an interchangeable taking lens; a color separation prism block or beam splitter as claimed and 3 image sensors, one for each color (See col. 1, lines 53 – 60; col. 2, lines 22 – 68 and Figs 2 and 3).)

Regarding Claim 32:

A camera for producing a phase image of an object, comprising a system as claimed in claim 11.

(The rejection of claims 1, 31 and 11 is incorporated herein. Claim 32 discloses the same limitations of claim 31 but as applied to claim 11. Doi teaches the optical system as in claim 11 and the other claims as well, which is part of a TV camera. Claim 32 is rejected for the same reasons (See col. 1, lines 53 – 60; col. 2, lines 22 – 68 and Figs 2 and 3).)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over "M. Satoh, US 6,710,806 B1" and in view of "Y. Doi et al., US 4,164,752 A".

Regarding Claim 23: As per Satoh reference,

A method of producing images of an object defocused with respect to one another and at at least two planes (Satoh Fig 6, step S109 teaches part of a method for producing focused/defocused images. Fig 8, step S302 separates the focus condition in focusing condition (step S304) and defocused in steps S303 (forward focusing condition) and S305 (rearward focusing condition). Images are produced in three planes as in Fig 5 for three image sensors red, blue and green. Figs 3A and 3C illustrate defocused images.)**, the method comprising: providing at least two sensors separated from one another** (Satoh Fig 5 shows three sensors (R, G and B) separated from one another)**; splitting a beam of radiation emanating from the object into at least two**

resultant beams and directing each resultant beam to a respective one of the sensors (Satoh Fig 5 shows dashed lines as the rays emanating from an object separated by a beam splitter 103 into three resultant beams, indicated by dashed lines, and each one goes to a different sensor 104A (Red), 104B (Green) or 104C (Blue)); **causing the path length of the resultant beams to the respective sensors to be different** (Satoh Fig 5 illustrates by dashed lines the resultant beams inside the beam splitter going into each sensor 104A (Red), 104B (Green) or 104C (Blue), where the resultant beams have different path length. 104B (Green) is longer; 104A (Red is the shortest and 104C (Blue) is intermediary); **directing at least one of the resultant beams through an adjustable optical element and increasing or decreasing the corresponding path length by adjusting the optical element** (Doi Figs 2 and 3 illustrates the resultant beams that come out of the beam splitter 22 being directed through an optical element (Fig 2, elements 23a and 23b; Fig 3, elements 25a and 25b) which is adjusted for increasing/decreasing the corresponding path lengths of the resultant beams); **and collecting images of the object that are defocused with respect to one another with said respective sensors** (Satoh Fig 3 shows images collected as the defocused images as in Fig 3A (forward focusing case) and Fig 3C (rearward focusing case). Images are defocused in comparison to the focused images as in Fig 3B. For the rearward condition, the red images are closer to focus than the blue or green images; therefore, the images of the object are defocused with respect to one another with the respective sensors).

(Satoh teaches a digital still camera system as in Fig 5, comprising three a beam splitter 103 for separating the light emanating from an object into three resultant beams, three image sensors 104A (Red), 104B (Green) or 104C (Blue), separated from one another to receive the resultant beams out of the beam splitter, in order to produce different images from the object (See col. 6, lines 43 – 67; col. 7, lines 1 – 65 and Fig 5). In Fig 5, Satoh shows dashed lines as the rays emanating from an object separated by a beam splitter 103 into three resultant beams, indicated by dashed lines, and each one goes to a different sensor 104A (Red), 104B (Green) or 104C (Blue), where the resultant beams have different path length. 104B (Green) is longer; 104A (Red is the shortest and 104C (Blue) is intermediary). Furthermore, Satoh teaches a method for operating such a camera system in Fig 6 and in step S109 teaches part of a method for producing focused/defocused images. Fig 8, step S302 separates the focus condition in focusing condition (step S304) and defocused in steps S303 (forward focusing condition) and S305 (rearward focusing condition) (See col.10, lines 31 – 67; col. 11, lines 1 – 10). Images are produced in three planes as in Fig 5 for three image sensors 104A (Red), 104B (Green) or 104C (Blue). As discussed above, Figs 3A and 3C for defocused images. In Satoh, the system produces defocused/focused images of the object as seen in Fig 3 (See col. 6, lines 12 – 20). In Fig 5, Satoh also illustrates a point image distribution factor calculating section 120 that calculates point image distribution factors for each color (R, G, B) on the basis of the pictured image data and results are shown as a focused image distribution as in Fig 11 (point image distribution factor in case of focusing

condition) and as a defocused image distribution as in Fig 12 (point image distribution factor in case of defocusing condition) (See col. 11, lines 46 – 61). Additionally, Fig 3 shows images collected as the defocused images as in Fig 3A (forward focusing case) and Fig 3C (rearward focusing case). Images are defocused in comparison to the focused images as in Fig 3B. For the rearward condition, the red images are closer to focus than the blue or green images; therefore, the images of the object are defocused with respect to one another with the respective sensors. Although, Satoh discloses most of the limitations claimed, Satoh fails to clearly teach an optical element placed between the beam splitter and the optical sensors, which on the other hand is taught by Doi. In Satoh Fig 5, the path length is varied by moving two of the sensors 104A and 104B and no optical element is needed to increase the path length. However, it is well known in the art the use of an optical element placed in front of the image sensor to increase/decrease the path length of the light beam and then to move the optical element instead moving the image sensor. For that matter and in the same field of endeavor, Doi discloses the path lengths being changed/varied as in Figs 2 and 3 by directing the resultant beams that come out of the beam splitter 22 through an optical element (Fig 2, elements 23a and 23b; Fig 3, elements 25a and 25b) which is adjusted for increasing/decreasing the corresponding path lengths of the resultant beams which are incident over the image sensors in order to produce an image of the object and the image sensor does not need to move.

Therefore, taking the combined teachings of Satoh and Doi as a whole, it would have been obvious to one of ordinary skills in the art, at the time the invention was made, to modify Satoh by adding an optical element between the beam splitter and two of the image sensors as taught by Doi, for the benefit of providing a camera in which the compensation for the difference in chromatic aberration can be easily conducted without moving the image sensor along the optical axis (See Satoh Figs 5, 3, 6, 8, 11 and 12).)

Regarding Claim 33:

A method of producing a phase image of an object, comprising: producing images of the object defocused with respect to one another and at at least two planes (Satoh Fig 6, step S109 teaches part of a method for producing focused/defocused images. Fig 8, step S302 separates the focus condition in focusing condition (step S304) and defocused in steps S303 (forward focusing condition) and S305 (rearward focusing condition). Images are produced in three planes as in Fig 5 for three image sensors red, blue and green. Figs 3A and 3C illustrate defocused images.)**, including: (i) providing at least two sensors separated from one another** (See Satoh Fig 5, three sensors 104A (Red), 104B (Green) and 104C (Blue) are separated from one another); **(ii) splitting a beam of radiation emanating from the object into at least two resultant beams, and directing each resultant beam to a respective one of the sensors** (Satoh Fig 5 shows dashed lines as the rays emanating from an object separated by a beam splitter 103 into three resultant beams, indicated by

dashed lines, and directing each one to a different sensor 104A (Red), 104B (Green) or 104C (Blue)); **(iii) causing the path lengths of the resultant beams to the respective sensors to be different** (Satoh Fig 5 illustrates by dashed lines the resultant beams inside the beam splitter going into each sensor 104A (Red), 104B (Green) or 104C (Blue), where the resultant beams have different path lengths. 104B (Green) is longer; 104A (Red) is the shortest and 104C (Blue) is intermediary); **(iv) directing at least one of the resultant beams through an adjustable optical element and increasing or decreasing the corresponding path length by adjusting the optical element** (Doi Figs 2 and 3 illustrates the resultant beams that come out of the beam splitter 22 being directed through an optical element (Fig 2, elements 23a and 23b; Fig 3, elements 25a and 25b) which is adjusted for increasing/decreasing the corresponding path lengths of the resultant beams); **and (v) collecting images of the object that are defocused with respect to one another with said respective sensors** (Fig 3 discloses images collected as the defocused images as in Fig 3A (forward focusing case) and Fig 3C (rearward focusing case). Images are defocused in comparison to the focused images as in Fig 3B. For the rearward condition, the red images are closer to focus than the blue or green images; therefore, the images of the object are defocused with respect to one another with the respective sensors).

(The rejection of claim 23 is incorporated herein, since both claims have a similar disclosure. As discussed for claim 23, Satoh discloses a digital still camera system as in Fig 5, comprising three a beam splitter 103 for separating the light emanating from an object into three resultant beams, three image

sensors 104A (Red), 104B (Green) or 104C (Blue), separated from one another to receive the resultant beams out of the beam splitter, in order to produce different images from the object (See col. 6, lines 43 – 67; col. 7, lines 1 – 65 and Fig 5). In Fig 5, Satoh shows dashed lines as the rays emanating from an object separated by a beam splitter 103 into three resultant beams, indicated by dashed lines, and each one goes to a different sensor 104A (Red), 104B (Green) or 104C (Blue), where the resultant beams have different path length. 104B (Green) is longer; 104A (Red is the shortest and 104C (Blue) is intermediary). Furthermore, Satoh teaches a method for operating such a camera system in Fig 6 and in step S109 teaches part of a method for producing focused/defocused images. Fig 8, step S302 separates the focus condition in focusing condition (step S304) and defocused in steps S303 (forward focusing condition) and S305 (rearward focusing condition) (See col.10, lines 31 – 67; col. 11, lines 1 – 10). Images are produced in three planes as in Fig 5 for three image sensors 104A (Red), 104B (Green) or 104C (Blue). As discussed above, Figs 3A and 3C for defocused images. In Satoh, the system produces defocused/focused images of the object as seen in Fig 3 (See col. 6, lines 12 – 20). In Fig 5, Satoh also illustrates a point image distribution factor calculating section 120 that calculates point image distribution factors for each color (R, G, B) on the basis of the pictured image data and results are shown as a focused image distribution as in Fig 11 (point image distribution factor in case of focusing condition) and as a defocused image distribution as in Fig 12 (point image distribution factor in case of defocusing condition) (See col. 11, lines 46 – 61). Additionally, Fig 3 shows

images collected as the defocused images as in Fig 3A (forward focusing case) and Fig 3C (rearward focusing case). Images are defocused in comparison to the focused images as in Fig 3B. For the rearward condition, the red images are closer to focus than the blue or green images; therefore, the images of the object are defocused with respect to one another with the respective sensors. Although, Satoh discloses most of the limitations claimed, Satoh fails to clearly teach an optical element placed between the beam splitter and the optical sensors, which on the other hand is taught by Doi. In Satoh Fig 5, the path length is varied by moving two of the sensors 104A and 104B and no optical element is needed to increase the path length. However, it is well known in the art the use of an optical element placed in front of the image sensor to increase/decrease the path length of the light beam and then to move the optical element instead moving the image sensor. For that matter and in the same field of endeavor, Doi discloses the path lengths being changed/varied as in Figs 2 and 3 by directing the resultant beams that come out of the beam splitter 22 through an optical element (Fig 2, elements 23a and 23b; Fig 3, elements 25a and 25b) which is adjusted for increasing/decreasing the corresponding path lengths of the resultant beams which are incident over the image sensors in order to produce an image of the object and the image sensor does not need to move.

Therefore, taking the combined teachings of Satoh and Doi as a whole, it would have been obvious to one of ordinary skills in the art, at the time the invention was made, to modify Satoh by adding an optical element between the beam splitter and two of the image sensors as taught by Doi, for the benefit of

providing a camera in which the compensation for the difference in chromatic aberration can be easily conducted without moving the image sensor along the optical axis (See Satoh Figs 5, 3, 6, 8, 11 and 12).)

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARLY CAMARGO whose telephone

number is (571)270-3729. The examiner can normally be reached on 6:00AM - 10PM, M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571)272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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